

REMARKS

Claims 2-23 and 25-27 are pending in this application. Of those claims, claims 25-27 have been withdrawn from consideration pursuant to the provisions of 37 C.F.R. §1.142(b). Claims 2-23 are now active in this application, of which claim 2 is independent.

Rejection of Claims under 35 U.S.C. § 103(a)

Claims 2-4, 6, 13, and 15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kamiya et al. (U.S. Patent No. 4,772,303) (“Kamiya”) in view of Kang et al. (U.S. Patent Application Publication No. 2005/0103057) (“Kang”).

In the statement of the rejection, the Examiner admitted that Kamiya fails to disclose a pressure of 4 kPa or less during the collapsing step. However, Kang teaches a method for producing an optical fiber preform comprising collapsing the preform tube while applying a negative pressure of 5 to 7.5 mmWC (0.05-0.07 kPa) in the pipe. On that basis, the Examiner concluded that it would have been obvious to utilize the pressure of Kang in the collapsing step of Kamiya to arrive at the claimed subject matter. This rejection is respectfully traversed.

Applicants submit that Kamiya and Kang, either individually or in combination, do not disclose or suggest a method for producing an optical fiber preform including all the limitations recited in independent claim 1. Specifically, the applied combination of the references does not teach, among other things, “in the collapsing step, the absolute pressure in the grass pipe is maintained at 4 kPa or below,” as recited in claim 1.

Applicants emphasize that the Examiner’s understanding of the teachings of Kang is not correct. Kang describes, “at the closing step for making a preform rod used for drawing an optical fiber, a small negative pressure as much as -5 to -7.5 mmWC is preferably applied into

the tube 10 so that the hollow preform is closed without transforming a geometric structure of the preform” (paragraph [0056]) (emphasis added). This pressure value is expressed as a value relative to the atmospheric pressure (see paragraph [0019], and step 20 in Fig. 5). In contrast, a pressure value in claim 1 is an absolute pressure.

The pressures of -5 mmWC and -7.5 mmWC relative to the atmospheric pressure can be converted into 101.28 kPa and 101.25 kPa (absolute pressure), respectively, because the atmospheric pressure is expressed to be 101.325 kPa (absolute pressure). The pressure in a glass pipe in the collapsing step disclosed in Kang is nearly the atmospheric pressure and different from 4 kPa as recited in claim 1.

As discussed in the February 8, 2008 response, Kamiya also discloses a pressure as a value relative to the atmospheric pressure. The value described in Kamiya et al. is 0 to -22 mmH₂O (see column 2, lines 39-50 and Fig. 3). Because the atmospheric pressure is expressed as 101.325 kPa or 10332 mmH₂O as an absolute pressure, relative pressures of 0 mmH₂O and -22 mmH₂O are expressed as absolute pressures of 101.325 kPa and $\frac{10332 - 22}{10332} \times 101.325 = 101.109$ kPa, respectively. The pressure in a glass pipe in the collapsing step disclosed by Kamiya is nearly the atmospheric pressure, too.

Based on the foregoing, Applicants submit that Kamiya and Kang, either individually or in combination, do not disclose or suggest a method for producing an optical fiber preform including all the limitations recited in independent claim 1. Dependent claims 3, 4, 6, 13, and 15 are also patentably distinguishable over Kamiya and Kang at least because these claims respectively include all the limitations recited in independent claim 2. Applicants, therefore, respectfully solicit withdrawal of the rejection of the claims and favorable consideration thereof.

Claim 5 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Kamiya and Kang in view of DiGiovanni et al.; claims 7 and 8 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kamiya and Kang in view of Barns et al.; claims 9, 11, and 12 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kamiya and Kang in view of Onishi et al.; claims 10 and 23 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kamiya and Kang in view of Kunio et al.; claim 14 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Kamiya and Kang in view of Homa; claim 16 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Kamiya and Kang in view of Chang et al.; claims 17-20 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kamiya and Kang in view of Homa and Yokota et al.; and claims 21 and 22 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kamiya and Kang in view of DiGiovanni et al. These rejections are also respectfully traversed.

Claims 5, 7-12, 14, and 16-23 depend from independent claim 2. Applicants incorporate herein the arguments made in response to the rejection of independent claim 2 under 35 U.S.C. §103 for obviousness predicated upon Kamiya and Kang. The Examiner's additional comments and reference to DiGiovanni et al., Barns et al., Onishi et al., Kunio et al., Homa, Chang et al., and Yokota et al. do not cure the deficiencies of Kamiya and Kang.

Therefore, Applicants respectfully solicit withdrawal of the rejection of the claims and favorable consideration thereof.

Conclusion

In view of the above remarks, Applicant submits that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the

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application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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